MONTHLY WEATHER REVIEW,

DECEMBER, 1881.

(General Weather Service of the United States.)

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

In preparing this REVIEW the following data, received up to January 20th, 1882, have been used, viz: the regular tri-daily weather charts, containing the data of simultaneous observations taken at 133 Signal Service stations and 14 Canadian stations, as telegraphed to this office; 193 monthly journals and 160 monthly means from the former, and 14 monthly means from the latter; 215 monthly registers from Voluntary Observers; 58 monthly registers from United States Army Post Surgeons; Marine Records; International Simultaneous Observations; Marine Reports through the co-operation of the New York Herald Weather Service; monthly reports from the local Weather Services of Iowa, Nebraska and Missouri, and of the Central Pacific Railway Co.; reliable newspaper extracts; special reports.

BAROMETRIC PRESSURE.

To illustrate the subject of the distribution of mean atmospheric pressure over the United States and Canada for the month of December, 1881, chart No. II has been prepared, upon which are traced the lines of equal barometric mean values. The areas of lowest mean pressure cover the northern portion of the Canadian Maritime Provinces and northern Minnesota, lowest barometers at Father Point and St. Vincent, 29.99 and 30.03 respectively. The areas of highest mean pressure cover Virginia and the South Atlantic States, the Middle and Northern Slopes and the Middle and Northern Plateau Regions, highest barometers, 30.24, at Augusta, Charlotte and Knoxville, and 30.36 at Salt Lake City. Higher readings, but of doubtful certainty owing to elevation, are reported from the Plateau Regions as follows: Eagle Rock, 30.50; Helena and Missoula, 30.55. The regions of lowest mean pressure and of largest deficiencies, coincide with the path of greatest storm disturbance as indicated by a comparison of charts Nos. I and II. Compared with the previous month, there has been a considerable fall in pressure throughout the Atlantic Coast States, and a compensating rise to the westward, except in the Northern Pacific Coast Region, where the largest comparative fall occurs.

Departures from the Normal Values for the Month.—Compared with the means of previous years, the mean pressure for the present month is generally above the normal throughout the country east of 87th and west of the 100th meridians. In these separate areas of excess the regions of greatest departure are found on the northeastern portion of the North Carolina coast, in New Jersey, northern New England and from Colorado and Wyoming westward to the Pacific. The departures of excess range from 0.01 to 0.16 inch, the largest being reported from Mt. Washington. The principal area of deficiency in mean pressure is a very irregular one, and is found rather anomalously, to follow very closely portions of the Mississippi and Missouri rivers. Commencing with New Orleans, the departures of deficiency are found with regularity at every station until Cairo is reached, when a small area of slight excess is encountered, extending northward to the northern boundary of Iowa. Beginning again at St. Paul, the departures of deficiency continue northward to Duluth and northeastward to St. Vincent. On the Missouri the departures of deficiency begin at Leavenworth and continue without change to Fort Buford. Small areas of deficiency are found in southern Florida, southern California and northeastern Oregon. The departures of deficiency range from 0.01 to 0.14 inch the largest occurring at St. Vincent.